

# Working Paper

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## Recommendations for sustainable brand personalities: An empirical study

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### Abstract:

Sustainability marketing has emerged as an important trend both in practice and in the academic literature. The relevant literature has heavily focused on determinations of sustainable consumer behavior, and practitioners have used these results to derive short-term marketing decisions, e.g., adequate pricing of sustainable products. However, no study has scrutinized derivations of sustainable brand personalities or provided important long-term, strategic, managerial implications for marketing managers of sustainable brands.

This study aims to contribute to this underrepresented research field and makes recommendations for preferred brand personality dimensions for sustainable brands. First, the personality structure of sustainable consumers by using a preference-based two-step segmentation approach is investigated, and subsequent profiling of the sustainable consumer segment is conducted. The research relies on the results of an empirical discrete choice experiment and a personality test, including the data of a representative German consumer sample. Sustainable consumers were found to be highly agreeable and open. Second, the personality results of sustainable consumers are linked to consumers' personality-specific preferred brand personalities. Third, recommendations for harmonic brand personality dimensions for sustainable brands, e.g., competence, excitement and sincerity, are derived, and therefore, long-term, strategic, managerial implications are provided.

**Keywords:** brand personality; sustainable brands; consumer personality; marketing

### 1. Introduction

Currently, sustainable consumption constitutes a rapidly increasing trend. Following Brinzan et al. [1], (p. 253), "sustainable consumption is a practical approach in order to achieve a status of sustainable development which addresses the economy, society and environment." Many consumers have adopted sustainable consumption behavior and are thus called sustainable consumers. In Germany (the focal country for this empirical research study), for example, the sustainable consumer segment LOHAS (Lifestyle Of Health And Sustainability [2]) comprises up to 50% of German consumers and is rapidly increasing [3]. Due to the enormous market potential of

sustainable consumer segments and their still-increasing growth rate [4] (p. 28), sustainable consumers are highly relevant for marketing managers. Companies must satisfy the needs of sustainable consumers to stay competitive and maximize revenues.

The targeting of sustainable consumers could be performed via the company's marketing mix, e.g., product, price, promotion and place. For example, product enhancements with sustainable product attributes such as a fair trade label could be used in product design decisions. Fair trade labels of the independent fair trade labeling organization (FLO) document that a product meets the FLO's standards, e.g., working conditions and fair compensation of commodities' manufacturers. Furthermore, a company's advertising could explicitly state the sustainability of a product. If the marketing mix is well balanced, a brand of sustainable products, e.g., sustainable brand, will be able to create a matching and successful brand image.

Following Singh et al. [5] (p. 597), brand image management has recently emerged as a key strategic issue for companies. Brand image is defined by Keller [6], (p. 3) as "perceptions about a brand as reflected by the brand associations held in consumer's memory." Therefore, brand image constitutes the external effect of a brand, e.g., how a brand is perceived by consumers. Several studies have shown that brand image has a direct effect on brand equity [7, 8]. (Customer-based) brand equity is defined by Keller [6], (p. 2) "as the differential effect of brand knowledge on consumer response to the marketing of the brand."

Importantly, according to Rust et al. [9], a brand's equity is likely to increase if a brand's image is enriched with sustainability issues. Hence, it is not unexpected that many companies, such as Starbucks and Ikea, have incorporated sustainability into their brand identity and image [10]. Such incorporation can be achieved in several ways on both strategic and operative levels that differ in their temporal horizons. However, both levels have to be perfectly aligned to stress a sustainable brand image. The brand attribute (and accordingly the brand image) has an important impact on consumers' purchase decisions. This holds for both in-store purchases and other distributional methods such as e-commerce [11, 12].

It is well known that consumers' utility for a certain product evolves from both physical, namely functional attributes (e.g., price, display of a fair trade label) and psychological attributes (e.g., brand personality) [13-15]. In several product categories, e.g., denim jeans, the physical attributes between different brands become increasingly equalized in a progressive product lifecycle, especially in the maturity stage of the product/market lifecycle. Hence, psychological product attributes gain increasing importance for brand building and achieving surplus utility. The personality of a brand constitutes a popular aspect of psychological product components. The brand personality is described as the "set of human characteristics associated with a brand" [16] (p. 347). For example, the fashion label "Chanel" could be considered sophisticated and is linked to facets such as charm and social status. In contrast, the fashion brand "Nike" exudes attributes such as ruggedness and is characterized by outdoorsiness and toughness [16] (p. 347). Recent literature has found that both high-quality functional product attributes and brand personality contribute to the promotion of a product's values, which subsequently results in strengthening the brand image of a company [17, 6]. This is not unexpected, as brand image and brand personality are strongly related to each other. In contrast to brand image, brand personality is built by the company itself and, therefore, has an internal component. However, as stated by Lee et al. [18], (p. 64) "A clearly defined brand personality can help the marketers build and maintain brand image".

Singh et al. [5] underscore the importance of the management of a company's social behavior as a key driver of a brand's image. They state that "brand associations include both attributes pertaining to the product and those related to the company's social activities" [5] (p. 598).

Therefore, the creation of an appropriate brand personality that matches the functional attributes of a brand is quite important. However, to date, little research has addressed these issues related to appropriate brand personalities for sustainable, e.g., social or ecological, brands. To close this research gap, this study relies on the findings from the relevant literature. In the research literature, it is well known that consumers use brands to express their own preferences and identity or their membership within a certain (e.g., sustainable) consumer group [19-21]. In this context, Malhotra [22] found that a consumer's personality and his/her preferred brand personality align. The more similar the brand personality is to the personality of its targeted consumers, the more likely consumers are to purchase the brand. For sustainable brands, e.g., brands that offer sustainable products, it is, therefore, advisable to explore the personality of sustainable consumers and to harmonize their brand personalities. This paper, therefore, aims to investigate the personality of sustainable consumers and searches for harmonic brand personalities, e.g., brand personalities that attract sustainable consumers. By uncovering sustainable consumers' preferred brand personalities for sustainable brands, important long-term, strategic, managerial implications for marketing managers of sustainable brands are provided.

The profiling of sustainable consumers is a key issue for sustainable companies. A considerable amount of research has been conducted on the characterization of sustainable consumers with varying individual background variables. This mimics the information for companies in the short run and provides them with decision support for operative, e.g., short-run, marketing decisions. For example, if a company is aware of females' preferences for sustainable products, the company may establish advertising campaigns with a famous male actor who is highly popular with females to increase product sales. A case of this approach was Nespresso's advertising campaigns with the renowned actor George Clooney, who is very popular among women. However, the particular circumstances that promote sustainable purchase behavior in the long run have thus far been unexplored. Marketing decisions that tackle entire strategies for (sustainable) companies are particularly sparse.

To date, for example, less research has focused on recommendations of appropriate brand personalities for sustainable brands. The selection and creation of a brand personality take considerable time and cost effort, representing a long-run strategic marketing decision. This contribution explores this research topic. To gain insights into sustainable product preferences, e.g., preferences for a fair trade label, and sustainable consumers' personalities, an empirical study in Germany that contains both a discrete choice experiment (DCE) using the product category of denim jeans and a personality test is conducted. German respondents are the subjects of the focal research because, compared to consumers in the U.S. or UK, the literature has thus far focused less on German consumers and sustainable consumer behavior [32] (p. 3). Furthermore, the study considers a durable product, e.g., denim jeans, to contribute to the existing literature that primarily has addressed nondurable consumer goods, e.g., coffee and chocolate, in the fair trade context [31].

The roadmap of this study is as follows: First, consumers' individual sustainable preferences via hierarchical Bayesian (HB) methods are explored, and sustainable and less sustainable consumer classes are built via a cluster analytic approach. This segmentation approach, therefore, constitutes a two-step segmentation procedure [52]. Hence, the estimation of segment-specific preferences and the assignment of consumers is not performed simultaneously, as is done in so-called one-step

approaches, e.g., latent class models [53]. Two subsequent steps for the segmentation procedure are considered here. This approach is beneficial because the main focus of this paper lies in the analysis of the significant differences between certain segments, e.g., personality differences. For example, Paetz [37] also considered a practical segmentation approach to explore significant differences in consumers' segment-specific willingness to pay for a fair trade label. Although Paetz [37] also determined individual preferences via HB methods in the first segmentation step, the second step comprises segment building based on sociodemographic variables and was not based on the clustering of individual-specific preferences, as is performed here.

Once the segments are observed via this two-step segmentation approach, the segments are profiled by using the personality variables of the associated segment members. Then, subsequent statistical analyses provide insights into the significant personality differences between sustainable and less sustainable consumer segments.

Based on the significant personality differences between sustainable and less sustainable consumers, well-known positive relationships between consumer personality and brand personality are used to provide suggestions for appropriate, e.g., harmonic, personalities for sustainable brands.

The remainder of the paper is organized as follows: In section 2, a brief literature review of the profiling results of sustainable consumers is conducted. In section 3, the theoretical foundations are established by discussing the estimation routines for consumers' preferences and personality traits and providing information on the positive links between certain consumer personality traits and brand personalities. In section 4, information on the empirical study is provided by discussing the data and reporting the results of estimation and analyses. In section 5, inferences regarding the appropriate brand personality dimensions for sustainable brands are drawn. Conclusions, limitations and future research issues are given in section 6.

## **2. Literature review**

To date, the profiling of sustainable consumers has been a popular research topic. Foremost is the profiling of green consumers who primarily care about ecological issues such as organic labels. Therefore, this section will start with a discussion of green consumer profiles. Jaiswal et al. [23] found that green consumerism is driven by several psychographic variables in an eco-context, such as environmental concern, perceived environmental knowledge, perceived consumer effectiveness, the perception of eco-labels, the perception of eco-brands and environmental advertisements, green purchase intention and green purchase behavior. Ziaei-Bideh and Namakshenas-Jahromi [24], *inter alia*, characterize green consumers using sociodemographic variables and found them to be predominantly female, older, less educated and of a lower income level. Similar results for certain sociodemographic variables were found in a study from the 1990s by Roberts [25], who characterized green consumers in the U.S. as older and with a lower level of income. In contrast, other studies over several decades have found that younger [26], more educated [25, 26] and higher-income respondents are more concerned with the ecological issues of products [27]. In contrast, Diamantopoulos et al. [28] conducted an empirical study in the UK that supported the influence of several sociodemographic variables, e.g., gender, number of children, education, and social class, on consumers' environmental attitudes but did not find any significant influence on consumers' environmental knowledge. The results seem to be dependent, to some degree, on the geographical or cultural background of consumers, as further studies maintain [29, 30].

For sustainable consumption in the context of a fair trade label, people and societies (and not the environment) are the primary beneficiaries of sustainability, e.g., social product attributes, although less research has been conducted in comparison to green consumption. This is *inter alia* maintained by the literature review of Tully and Winer [31], who report that only 18 of 82 studies are concerned with people as beneficiaries, while 57 of 82 studies address the environment as the beneficiary [32] (p. 2). However, even here, the profiling of so-called “social consumers” is enormous, and a continuous increase in such profiling in recent decades can be found. Similar to green consumption, different types of variables, e.g., geographical, cultural, sociodemographic, and psychographic, are used to profile social consumers. Social consumers were frequently identified to be predominantly female [32-34], young [35, 36], have a higher level of income [34], live in smaller households [37] and have a higher level of education ([34, 35, 38]. In addition, cultural determinants for fair trade consumption have been maintained [39]. However, according to green consumers’ profiling, the characterization of social consumers with sociodemographic variables also leads to mixed results. For example, Carrigan et al. [40], Vecchio and Annunziata [41] and Poelmans and Rousseau [42] report that older consumers are more concerned with fair trade issues. In contrast, Cranfield et al. [43] and Maaya et al. [44] found no influence of sociodemographic variables on consumers’ fair trade preferences.

The parallels between the determinants of eco-friendly purchase behavior represented by preferences for organic labels and social-friendly purchase behavior represented by preferences for fair trade labels are not unexpected. Both types of purchase behavior represent sustainable purchase behavior, where factors other than the pure egoistic attitudes of the consumer influence the final purchases. Furthermore, Maaya et al. [44] found significant correlations between consumers’ willingness to pay for organic labels and fair trade labels. Hence, many results from the vast literature on green consumption behavior seem to be transferrable to social consumption behavior. This ascertainment will be used in the following reflections.

Recently, psychological variables characterizing green consumers as a proxy for sustainable consumers have gained increasing attention. This is not unexpected since several researchers claimed and maintained that psychographic variables, such as behavioral or attitudinal variables, best model sustainable consumer behavior [38, 45, 46]. For example, Konuk [47] found that conscientiousness about fair consumption, environmental concerns, trust in fair trade labels and consumer innovativeness positively influence consumers’ fair trade preferences. Hwang and Lee [48] found positive relations between ecological beliefs and consumers’ preferences for ecotourism behavior. Balderjahn and Hüttel [49] found evidence supporting the influence of personal values on consciousness for sustainable consumption and subsequently its impact on sustainable consumption behavior. De Pelsmacker et al. [35] detected the influence of consumers’ lifestyles on sustainable consumption. Recently, personality variables, as another category of psychographic variables, have also gained attention in studies seeking to understand sustainable purchase behavior. Gustavsen and Hegnes [50] measured Norwegian respondents’ personalities using the five-factor model of personality and estimated binary regression models to reveal that highly agreeable, highly open and highly introverted persons have positive attitudes toward the purchase of organic food.

The number of studies focusing on psychological profiling of social consumers is much lower: In a German sample, Paetz [38] also measured respondents’ personality using the five-factor model. Personality was used in a mixed logit model as an exploratory variable; the results found that open, extraverted, neurotic and agreeable consumers had a high preference for a fair trade label. Awais et al. [51] used a structural equation model to assess the relationship between personality (measured by the five-factor model) and e-mavenism, frugality and sustainable consumption behavior in a

Chinese sample. They maintained a positive relationship between respondents' personality, e-mavenism, frugality and sustainable consumption.

To conclude, psychological variables, such as consumer personality, were found to be an important factor for sustainable purchase behavior, independent of country and culture. Therefore, they are verifiably more robust, e.g., lead to more consistent results, than sociodemographic variables in the profiling of sustainable consumers.

### 3. Materials and Methods

#### 3.1 A two-step preference segmentation approach in the context of a DCE

To discover sustainable consumers, it is mandatory to determine consumers' preferences for sustainable product attributes. For this purpose, a DCE is used [54]. In a DCE, alternatives are recognized as a bundle of prespecified attributes, each with varying attribute levels. These attributes and associated attribute levels are prespecified by the researcher, and only for these attributes (levels) is the estimation of preference parameters possible.

To determine the individual preferences for each attribute level, an HB-multinomial logit (MNL) model is employed. The HB-MNL model is a widespread and highly popular discrete choice model that is heavily used in both academic and practical applications [55, 56]. The HB-MNL model is rooted in random utility theory and allows us to account for preference heterogeneity on an individual level. The random utility  $U_{ji}$  of alternative  $i$  for individual  $j$  is ([32], p. 2):

$$U_{ji} = \alpha_j \cdot p_i + x_i \cdot \beta_j + \varepsilon_j,$$

where  $\varepsilon_j$  is a random error term that is assumed to be Gumbel distributed,  $p_i$  denotes the price of alternative  $i$ ,  $\alpha_j$  is a linear price parameter,  $\beta_j$  is a part-worth utility vector that contains individual  $j$ 's utilities of the nonprice attributes (levels) and  $x_i$  is a design vector that displays the codings for all nonprice attribute levels of alternative  $i$ . Individuals are assumed to behave as utility maximizing, e.g., an individual chooses the alternative that provides the greatest utility  $U_{ji}$  to him/her in a certain choice occasion. The price is regarded as a function of transactional costs (in contrast to its function of signaling quality), and it is assumed that increasing prices reduce the overall utility  $U_{ji}$ . Hence, the linear price parameter  $\alpha_j$  yields a negative sign.

The choice probability of respondent  $j$  for alternative  $i$  is [56] (pp. 41):

$$P_{ji} = \int_{-\infty}^{\infty} \left( \frac{\exp(\alpha_j \cdot p_i + x_i \cdot \beta_j)}{\sum_{n=1}^I \exp(\alpha_j \cdot p_n + x_n \cdot \beta_j)} \right) \cdot \phi(\theta|b, \Omega) d\theta$$

where  $\phi$  describes a multivariate Gaussian mixing distribution with mean  $b$  and covariance matrix  $\Omega$ . The HB-MNL model estimates individual parameter vectors  $\theta'_j = [\alpha_j, \beta_j]'$ , where  $j=1, \dots, J$ , based on the respondents' choice data from several choice occasions in a hierarchical form and employs first- and second-stage priors. The mixing distribution constitutes the first-stage prior, which determines the parameter vector  $\theta$ , while the second-stage priors are the prior beliefs regarding the mean  $b$  and covariance matrix  $\Omega$  [56] (p. 43). To estimate the HB-MNL model, the mean  $b$ , the covariance matrix  $\Omega$  and the conditional posterior distribution of the individual parameters  $\theta$  have to be estimated. This is performed by (repeated) draws from the posterior distribution. For the mean  $b$  and covariance matrix  $\Omega$ , Gibbs sampling could be used. For the conditional posterior

distribution of the individual parameters  $\theta$ , a Metropolis Hastings algorithm is applied [57]. For further information on a detailed approach, interested readers are referred to Gelman et al. [58].

Once the individual preference parameters are acquired, the second step of the two-step segmentation approach follows. Here, individual part-worth utility parameters for the sustainable product attribute (here, a fair trade label) are used as the input for a cluster analytic approach, and two classes (sustainable vs. less sustainable) are searched.<sup>1</sup> Therefore, it is assumed that a high/low preference for the fair trade label attribute corresponds to a high/low preference for sustainability that characterizes sustainable/less sustainable consumers.

### *3.2. Consumer personality and brand personality: Operationalization and relationships*

To describe or even determine the personality of an individual, several approaches exist, e.g., Eysenck's three-factor model [60, 61], Cattell's 16-factor model [62], Zuckerman et al.'s alternative five-factor model [63], and Costa and McCrae's version of the five-factor model [64]. A considerable amount of research has been conducted to compare different personality models [65, 66]. Five factors that determine an individual's personality that remain quite stable and extremely useful were found [67] (p. 880): openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. These factors build the popular five-factor model, and this contribution will follow its version defined inter alia by McCrae and Costa [64] and McCrae and Costa [68] (p. 165). Each of these five factors is related to several facets. For example, factor openness is related to wide interests and fantasy, and factor conscientiousness is linked to facets such as deliberation or dutifulness. Extraversion comprises assertiveness and excitement seeking, and agreeableness includes facets such as altruism and straightforwardness. Neuroticism is related to vulnerability and angry hostility [69] (pp. 21).

The five factors of personality are commonly determined using personality tests that rely on several items. Here, many different batteries of items exist. For example, John and Srivastava [70] used 44 items, Saum-Aldehoff [71] used 50 items, Goldberg [72] used 100 items and Saucier [73] used 40 items to determine the personalities of respondents via the five-factor model. These items include statements such as "I am depressed" or "I am original and come up with new ideas" [70]. All items were rated by each respondent on Likert-type scales to identify the respondent's agreement with each item. Once all the different aspects of the factors are rated, the ratings are aggregated and factor levels are obtained for each respondent. A respondent can then be characterized as a highly open, neurotic and extravert person who is less conscientious and agreeable.

According to the personality of humans, even inanimate things, e.g., brands, are often assigned human traits. This stems from humans' urge to animate soulless objects to be able to better classify and process them [74]. Although the general concept of brand personality has a long tradition in marketing [75] and many studies have been conducted on the relationship between certain brand personalities and consumer behavior [22, 76- 78], Aaker [16] was the first to develop a framework of the dimensions of brand personality and an associated dimension-measurement scale that is reliable, valid, and generalizable. The scale is based on the five-factor model of consumer personality. Aaker [16] defined a brand's personality as the "set of human characteristics associated with a brand" [16] (p. 347). To categorize brand personality, Aaker [16] used a North American sample and identified

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<sup>1</sup> Theoretical information on the theory of cluster analytic approaches are out of the scope of this paper and can be found elsewhere [59].

five independent dimensions that constitute a brand's personality, i.e., competence, excitement, ruggedness, sincerity and sophistication. In accordance with the description of consumer personality traits within the five-factor model, distinguishing facets help us describe the five brand personality factors. For example, while competence is characterized by efficiency, excitement refers to imaginativeness. Ruggedness is linked to outdoorsiness, sincerity is linked to domesticity and sophistication is linked to pomposity [16] (p. 351). The criticism of Aaker's [16] approach is that it lacks cross-cultural stability, which means that the five factors are not always replicable across different cultures, as has been reported [79]. In the German (the focal research country here) context, to the best of the author's knowledge, three different brand personality scales, namely, those of Hieronimus [80], Mäder [81] and Bosnjak et al. [82], have been developed thus far. All these scales differ in both the number and declaration of brand personality traits. Even for a fixed cultural context (i.e., Germany), a comprehensive scale that measures brand personality does not exist. Nonetheless, this contribution relies on the brand personality scale of Aaker [16] to edit the German sample because, for example, Gil and Hellgren [83] verified the initial North American scale of Aaker [16] for a German sample.

As briefly mentioned before, relevant research has found that consumers tend to prefer a brand whose personality matches the personality of the consumer to some extent [84, 85]. It is therefore advisable to conduct a brief literature review of the positive relationships between brand and consumer personalities. For consistency, this contribution will exclusively rely on studies that explicitly measure consumer personality by using the five-factor model of consumer personality and brand personality with Aaker's [16] scale. Within her seminal study, Aaker [16] analyzed the relationships between brand personality and consumer personality (measured by the five-factor model), and several studies maintained and expounded on the findings [84, 86]. For example, Aaker [16] identified positive relationships among brand personality sincerity and the consumer personality traits of agreeableness and conscientiousness, positive relationships among excitement, and openness, extraversion, and a positive relationship between competence and conscientiousness. For example, highly conscious consumers prefer brand personality competence. Fennis et al. [87] found positive links between extraversion and brand personality ruggedness and between openness to experience and brand personality competence. Geuens [88] reports positive relations between conscientiousness, agreeableness and sincerity, and between conscientiousness, extraversion and competence. Lin [86] found positive relationships among extraversion, agreeableness, and excitement and among sincerity and competence and agreeableness. Hence, for example, extrovert consumers prefer brand personality excitement. Dikcius et al. [89] revealed positive relations between consumer personality trait agreeableness and brand personality trait competence, excitement and sincerity, and between openness and sincerity and competence. In addition, the authors identified positive correlations between conscientiousness and brand personality competence, excitement, sincerity and sophistication. Ghorbani and Mousavi [90] revealed positive relations between conscientiousness and competence and between conscientiousness, extraversion and excitement. The results of Anvari and Irum [91] are less meaningful; the authors found positive relations between all personality traits and all brand personality traits. Because the results of Anvari and Irum [91] do not reveal any specific relationships between consumer and brand personality, their results will be skipped in further research here.

Table 1 yields an overview of positive relationships between consumers' personality traits (measured by the five-factor model) and brand personality dimensions (measured by Aaker's [16] scale) that were discussed before.



**Table 1.** Positive relationships between consumers' personality and brand personality

<b>Consumer personality</b>	<b>Brand personality</b>
Agreeableness	Competence, Excitement, Sincerity
Openness	Competence, Excitement
Conscientiousness	Competence, Excitement, Sincerity, Sophistication
Neuroticism	
Extraversion	Competence, Excitement, Ruggedness

Recent literature reported no or fewer links between consumers' personality trait of neuroticism and any brand personality dimension.

These results may be used later to derive recommendations for brand personalities for sustainability, e.g., fair trade brands. For example, if the empirical study reveals that consumers who prefer the display of a fair trade label are characterized as highly open, it could be concluded that they prefer the brand personality dimensions competence and excitement. Hence, a company that sells fair trade products may use one of these brand personality dimensions to attract sustainable consumers.

#### **4. Empirical study**

##### *4.1 Data*

An empirical study within the durable product category of denim jeans was conducted. Here, an online survey, i.e., a questionnaire, was distributed via a market research institute to a representative German sample. The respondents who stated that they actually buy denim jeans (for self-use) were allowed to complete the questionnaire. The questionnaire included three parts. The first part included general questions regarding the sociodemographic characteristics of respondents, e.g., the respondents' gender, age, monthly household income and academic education. The second part contained a personality self-test that was adopted from Saum-Aldehoff [71] (pp. 190-198). In this test, each personality factor is calculated based on the results for five distinctive facet pairs, e.g., five pairwise oppositional statements about human personality. For the factor agreeableness, for example, respondents were faced with the oppositional statements "I am cooperative!" and "I am uncooperative!" and evaluated for their agreement with these statements on a 5-point Likert scale, e.g., "1 = I completely disagree" to "5 = I completely agree", respectively. Subsequently, the difference between these statements' evaluations was built. For example, if a respondent marked evaluations 5 (for "I am cooperative!") and 1 (for "I am noncooperative!"), the final evaluation for the facet "cooperative" was  $5 - 1 = 4$ . Since there are five oppositional statements per factor, each factor's value ranges between -20 and + 20. Here, a higher value indicates a higher factor level. For example, a respondent's value of + 11 for the factor openness indicates a highly open personality, while a value of - 3 indicates a less open personality. The third part contained a DCE. The DCE included 16 choice sets in a dual-response design [92] (p. 157). Therefore, for each choice, each respondent had to address two question formats. First, respondents were faced with a choice task in which they had to choose their most preferred denim jean alternative out of four (hypothetical) pairs of denim jeans. Quite importantly, no no-choice option was provided in this choice set. Hence, the respondents were forced to choose one of the four displayed denim jean alternatives. Second, respondents were asked, "Considering the actual market situation, would you actually buy the

denim jeans alternative you selected before?" The respondents could choose between the answers "Yes" and "No."

To describe the denim jean alternatives, four attributes with four levels each were used. With the exception of the fair trade label attribute, all attributes were selected according to attributes that are frequently used in DCEs that address denim jeans in the relevant literature. Jin et al. [93] provide a literature review on recent DCEs for denim jeans. The attributes, their associated levels and respondents' aggregated, stated importance of attributes for their final choice decision are displayed in Table 2. The stated importance was directly measured on a constant scale that summed to 100 points (= 100%).

**Table 2.** Denim jeans' attributes, associated levels and stated importances of attributes

Attribute	Level	Stated importance in [%]
Price	50€, 90€, 130€, 170€	46.55
Brand	Diesel, G-Star, Levis, Replay	18.29
Design	Traditional, trendy	22.86
Fair trade label	No, yes	12.30

A total of 353 completed questionnaires were acquired via the online survey and processed. Table 3 contrasts the sample's sociodemographic distribution against the sociodemographic results for the German distribution. To stay absolutely consistent, the sociodemographic results from 2018 were considered here because the data were collected in winter 2017-2018. However, in comparison to the current year 2021, the sociodemographic structure in Germany has not significantly changed since 2018.

Because the sociodemographic distribution closely mimics the sociodemographic distribution of the German population, the sample is therefore representative.

**Table 3.** Socio-demographic distribution: sample vs. German population [94-97]

	Sample	Germany
Male [in %]	49.60	49.35
Mean age [in years]	42.97	44.40
Academic education [in %]	17.30	18.00
Monthly (net) household income >2600€ [in %]	38.00	43.19

Furthermore, Table 2 shows that all denim jeans' attributes (that were prespecified by the researcher) seem to be relevant for respondents' final choice decision in the denim jeans category. Here, the price seems to be the most influential attribute, with a mean rating of 46.55%, followed by the design of the denim jeans (mean rating of 22.86%), the brand (mean rating of 18.29%) and the fair trade label attribute (mean rating of 12.30%). The relevance of all attributes within a DCE is quite important for the stability of the following estimation of preference parameters. In addition, the choice design is equally well balanced because general shares of the hypothetical denim jean alternatives in 16 choice sets of 24.65%, 27.11%, 25.19% and 23.05% were observed [98]. Such a well-balanced design provides a sound basis for the subsequent estimation of individual preference parameters via the HB-MNL model.

#### 4.2 Segmentation and profiling results

First, the estimation of individual preference parameters is of primary interest. Therefore, an HB-MNL model was estimated via commercial CBC/HB software from Sawtooth Software [99].

Here, effects coding was assumed for all nonprice attributes, e.g., brand, design and fair trade label, and a linear price parameter. The first level of each denim jean attribute served as the reference category. Although the estimation of a linear price parameter does not account for possible nonlinearities in the price function, the consideration of a linear price parameter in contrast to part-worth parameters for (the four) different price levels is common practice [100] (p. 2). An advantage of the estimation of one linear price parameter compared to the estimation of several part-worth parameters for each price level is the reduced number of parameters to be estimated, which in turn saves degrees of freedom in the estimation.

Table 4 displays the means of the preference parameters and the covariance parameters resulting from the estimation of the HB-MNL model.

**Table 4.** Preference parameters  $\theta$  and covariance parameters  $\Omega$  from the HB-MNL model

	$\theta$					$\Omega$				
Diesel	0.589	1.708	-1.162	0.378	-0.924	-0.013	-0.001	0.001	-0.210	0.210
G-Star	-1.002	-1.162	2.555	-2.028	0.634	0.016	-0.062	0.062	0.032	-0.032
Levis	1.260	0.378	-2.027	2.945	-1.296	-0.014	0.132	-0.132	-0.156	0.156
Replay	-0.848	-0.924	0.634	-1.296	1.585	0.011	-0.069	0.069	0.334	-0.334
Price	-0.128	-0.013	0.016	-0.014	0.011	0.093	0.003	-0.003	-0.012	0.012
Traditional	-0.025	-0.001	-0.062	0.132	-0.069	0.003	0.739	-0.739	0.165	-0.165
Trendy	0.025	0.001	0.062	-0.132	0.069	-0.003	-0.739	0.739	-0.165	0.165
Fair Trade	0.771	-0.210	0.032	-0.156	0.334	-0.012	0.165	-0.165	2.009	-2.009
No Fair Trade	-0.771	0.210	-0.032	0.156	-0.334	0.012	-0.165	0.165	-2.009	2.009

The mean preference parameters  $\theta$  displayed in the first column of Table 4 conform to expectations: the price parameter shows an economically meaningful negative sign. Hence, increasing prices contribute to decreasing utilities, which mimics the assumption of the price in its opportunity cost function. The inclusion of a fair trade label increases the overall utility. In addition, the denim jeans brand Levi turns out to be the most preferred brand, followed by the brands Diesel, Replay and G-Star. The design only has very small impacts on the overall utility of a denim jean alternative. The covariance parameters show that there is some unobserved heterogeneity within the data.

Once the individual parameters were determined, the second step of the two-step segmentation approach follows. Here, the part-worth utility parameter of the fair trade label was used as input for a k-means cluster analysis in IBM SPSS 24, where the number of classes was fixed to two, e.g., sustainable versus less sustainable classes. Well-separated classes ( $F = 938.443$ ,  $p = 0.000$ ) resulted, which incorporated 280 versus 73 respondents. For each class, the class-specific part-worth parameters and the attribute importance for the sustainable product attribute resulting from the aggregation of the individual parameter estimates of the associated class members were calculated. Table 5 displays the class-specific mean part-worth utility parameters for the sustainable and less sustainable classes.

**Table 5.** Class-specific mean preference parameters from the two-step segmentation approach.

	<b>Class 1</b> <b>(less sustainable)</b>	<b>Class 2</b> <b>(sustainable)</b>
Diesel	0.619	0.474
G-Star	-0.989	-1.050
Levis	1.290	1.147
Replay	-0.921	-0.570
Price	-0.138	-0.089
Traditional design	-0.077	0.173
Trendy design	0.077	-0.173
Fair trade label	0.266	2.709
No Fair trade label	-0.266	-2.709
Rel. shares of classes [in %]	79.32	20.68

Both classes are of a meaningful size, while the sustainable class yields a lower relative share of 20.68% (= 73 class members). Both classes differ in their preferences for the fair trade label attribute. Class 1 contains 280 members with a part-worth utility of 0.266 (fair label: yes) and a relative importance of 12.99% for this sustainable product attribute. Class 2 consists of 73 members with a part-worth utility of 0.771 for the fair trade label and an associated relative importance of 47.60% for the sustainable product attribute. Although both classes yield a positive sign for the fair trade label attribute, class 2 attaches significantly higher importance to the sustainable fair trade label attribute, as displayed in Table 6. Hence, class 2 consists of sustainable consumers, while class 1 contains less sustainable consumers. While no differences in the preference rankings for certain brands can be obtained between the classes, differences in the class-specific preferred design of the denim jeans can be observed. Sustainable consumers favor a traditional design over a trendy design, while less sustainable consumers favor a trendy design. The price parameters yield negative signs in both classes, which is economically meaningful. However, the less sustainable class (class 1) is more price sensitive than the sustainable class.

Finally, the results of the individual personality tests were used, and the two classes were profiled with personality traits (resulting from the five-factor model). The personality profiling results of both classes and the F- and associated p-values resulting from the one-way ANOVA are given in Table 6.

**Table 6.** Class-specific personality factors' values.

	<b>Class 1</b> <b>(less sustainable)</b>	<b>Class 2</b> <b>(sustainable)</b>	<b>F-value (p-value)</b>
Rel. importance FT label	12.99	47.60	498.501 (0.000)
Agreeableness	10.075	11.507	3.228 (0.073)
Openness	5.139	6.658	2.892 (0.090)
Conscientiousness	9.404	10.370	1.185 (0.277)
Neuroticism	- 2.129	- 2.849	1.109 (0.293)
Extraversion	3.032	3.658	0.505 (0.478)

Sustainable class 2 is significantly more agreeable and open than less sustainable class 1 ( $p \leq 0.10$ ). Since the factor values range between -20 and +20, it can be concluded that sustainable consumers are highly agreeable (11.507) and highly open (6.658). The results correspond to the results of Gustavsen and Hegnes [50], who reported the same personality traits for sustainable

consumers in their Norwegian sample. The characterization of sustainable consumers as highly agreeable and highly open is further supported by the factors' facets. As already stated in section 2.2, agreeableness corresponds to facets such as altruism, kindness and warm-heartedness [68], (p. 164). In particular, the facet "altruism" is linked to the fair trade context, where people are beneficiaries of social product enhancement with a fair trade label [101]. Openness corresponds to facets such as intellectualism, emotionality, and liberalism [102] (p. 178-179), which are relevant in the fair trade context as well.

## **5. Inferences on sustainable brand personalities**

Companies that consider enhancing their products with a fair trade label are faced with many challenges. Marketing managers must determine the appropriate marketing mix, e.g., product, price, promotion and place. The product mix itself has to be carefully reviewed, and it must be determined whether the company should change its current product (line) to a fair trade product (line) completely or instead introduce a fair trade product variant to its already established product (line). This topic is not exclusively relevant for already-established companies and has to be considered by companies that newly enter the market as well. Furthermore, decisions on the distribution system have to be made. To date, whether sustainable consumers prefer a specific distributional form for sustainable purchases, such as whether they prefer online or in-store shopping, has not been clearly researched. However, this has important impacts on the composition of the distribution system of companies that sell sustainable products, e.g., fair trade products. Research in a related field on in-store and online store promotions for sustainable products or implications for sustainable brand management based on the determinants for consumers' preferred distribution channel has recently grown [103-105]. However, this research is a presage to the distributional decision for sustainable products only and provides helpful recommendations for promotions for sustainable products at the point of sale. Both product-specific and distributional decisions are strategic, e.g., long-term marketing decisions, and must be carefully regarded due to the extensive, company-wide impacts they have.

In addition, several operational challenges concerning adequate prices for a (newly introduced) fair trade product (variant) and advertising campaigns have to be addressed by a company. In the field of fair trade product pricing, many research studies on consumers' willingness to pay for fair trade products have recently been published [33, 47]. However, it must be considered that a willingness to pay does not translate into the acceptance of a high price premia for fair trade products per se. For example, Paetz and Guhl [106] showed that the price premia for fair trade products are only one-third of consumers' willingness to pay. This corresponds to the well-known "attitude-behavior gap" that has been exhaustively researched in the context of sustainable consumption [107-110].

While pricing and promotional decisions are more operational strategies, they also relate to and have to be aligned with a company's long-term strategic decisions. As described previously in section 2.2, one of the major strategic decisions or challenges of a company is to carefully construct a brand personality. Recent literature has identified relationships between consumer personalities and brand personalities. Here, it was found that a consumer's preference for a certain brand increases the greater the congruity between the consumer personality and brand personality [16] (p. 347).

Based on the results of the profiling of sustainable consumers as agreeable and open, managerial implications for brand personalities for sustainable brands can now be inferred. Here, it

is considered that sustainable companies may harmonize their brand personality with consumer personalities to enhance the success of their fair trade product(s). Concerning the focal personality traits “agreeableness” and “openness”, the results from Table 1 that report positive relationships between these two consumer personality traits and brand personalities are used. Here, Aaker [16] and Lin [86] identified positive correlations between both the consumer personality traits “openness” and “agreeableness” and the brand personality traits “excitement” (and “competence”). To attract sustainable consumers who are both highly agreeable and highly open, companies that offer brands or products with social product enhancements may focus on the brand personality dimension (“competence” or) “excitement” to attract sustainable consumers. A closer inspection indicates that the adjectives associated with the recommended brand personalities directly correspond to the fair trade context. Excitement is described by attributes such as daring, spirited, imaginative and up-to-date [16] (p. 351). The process of transferring these attributes to the fair trade context is straightforward; for example, a brand that offers a fairly traded product could *inter alia* be considered an up-to-date and imaginative brand because the fair trade context is also associated with these attributes [111].

Furthermore, not all brands are able to establish the brand personality trait “excitement” because the brand personality must match the products (and its attributes and the whole marketing mix) of a certain brand and/or company [86]. However, if we focus on the highly agreeable personality of the sustainable consumer class and draw on the positive relationships between the consumer personality trait “agreeableness” and the brand personality traits “sincerity” and “competence”, additional possibly harmonic brand personalities for sustainable brands and/or companies appear. Sincerity is described by the attributes honest, wholesome, cheerful and down-to-earth, while competence is linked to attributes such as reliable, successful and intelligent [16] (p. 352). According to Lübke [111], the attributes “reliable” and “honest”, are also strongly associated with the fair trade label by more than 50% of the respondents in his study. Hence, these brand personality dimensions also seem to be highly aligned with brands that offer sustainable, e.g., fair trade, products.

In this context, two further aspects are important to note. First, not only (established) sustainable consumers in a certain product category may be attracted to switching brands by a sustainability-harmonic brand personality. In addition, even sustainable consumers who did not purchase a product in a certain product category may still be attracted by a sustainability-harmonic brand personality. In this case, new consumers are gained, and the market volume of the entire product category market is increased. Second, even consumers who were not sustainable consumers may be attracted by a certain personality of a sustainable brand and buy the sustainable product. In this case, the overall volume of sustainable consumers is increased. Hence, selected brand personalities, e.g., competence, excitement, and sincerity, are able to promote sustainable purchase behavior and contribute to an increase in consumers’ sustainable lifestyle *per se*.

## 6. Conclusion

Currently, sustainable consumption constitutes a red-hot research field worldwide. An enormous number of research studies have examined sustainable consumer characteristics, e.g., sociodemographic and psychographic characteristics, preferences and willingness to pay for sustainable product attributes, e.g., fair trade labels and eco labels. Based on the profiling results of sustainable consumers, formerly operative, e.g., short-term, marketing decisions were derived. For example, a company determines the targeted recipients for an advertising campaign for their

sustainable products and decides on the appropriate testimonial. However, strategic, e.g., long-term, marketing decisions have thus far been less considered in the literature. For example, the ability to apply the profiling results to recommend brand personalities for sustainable brands has not been researched. This is astonishing because brand personality verifiably impacts consumer (purchase) behavior, and companies should therefore establish a core focus on this psychological brand component. In the literature, it is well documented that consumers tend to choose brands that coincide with their personality. Hence, companies that sell sustainable products are heavily advised to build up a brand personality that is in line with the personality of their targeted consumers, e.g., sustainable consumers. The brand personality and the corresponding brand image are helpful not only for the associated company itself but also for society per se. If consumers are attracted by a certain brand image and brand personality and buying the sustainable products of the brand, this will automatically lead to an increase in sustainable purchase behavior. Hence, an appropriate brand personality may even promote sustainable purchase behavior among consumers who have not yet bought sustainable products. This increases the number of sustainable consumers, which in turn contributes to society's welfare.

To explore suggestions for appropriate personalities of sustainable brands, e.g., fair trade brands, this study reports the results of an empirical study that includes a DCE of denim jeans and a personality test. By using a preference-based two-step segmentation approach, sustainable and less sustainable consumer classes were extracted, and their personality differences were explored. Sustainable consumers were found to be significantly more agreeable and open than less sustainable consumers. The characterization of sustainable consumers coincides with the results of recent literature. Subsequently, by using well-known positive relationships between consumer and brand personality traits, it could be concluded that sustainable brands should highlight the brand personality dimensions "competence", "excitement" or "sincerity" to attract (agreeable and open) sustainable consumers. These brand personality dimensions are further supported by their parallels with consumers' associations with sustainable labels. For example, the fair trade label is associated with the attribute "imaginative", which corresponds to the facet of the brand personality "excitement".

Thus far, less research has identified the parallel traits of sustainable brands and their most appropriate brand personalities. Hence, research in this field is needed to provide further insights into the relationship between sustainable brands and consumers' perceptions. This study relied on positive relationships between consumer personalities and brand personalities from recent literature. An all-encompassing study that investigates both sustainable consumers' personality traits and parallels between consumer and brand personalities in a sustainable product context is still left for future research. However, the review of the literature on the positive links between consumer and brand personalities considered studies from a wide range of different product categories, e.g., cars, toys, political parties, and beauty brands. Hence, the author is very confident that the stable results from the literature are not exclusively product category-specific but are highly generalizable and therefore appropriate for this denim jean study. The consideration of only one German data set may be highly restrictive because sustainable German denim jean consumers were profiled with personality variables only. However, the author is confident that the results are generalizable over both other countries and product categories because recent literature that used the same personality test to measure sustainable consumers' personality yields the same results of highly agree and highly open sustainable consumers in other countries and product categories. Based on the results of these studies, the author is also confident that the results on brand personalities in harmony with sustainable brands can also be applied to other product categories

and different cultures. However, future research may focus on different measures for consumer personality or brand personality and may consider a cross-cultural comparison to contribute to a deeper understanding of sustainable consumers in a cross-cultural context.

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